

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Divisional Patent Application of :  
Downs et al : METHOD FOR CONTROL  
Parent Filed: March 31, 1999 : OF MERCURY  
Parent Serial No.: 09/282,817 :  
Parent Art Unit: 1754 : DIVISIONAL CASE 6013D  
Parent Examiner: Vanoy : (Parent Case 6013)

JC872 U.S. PTO  
09/894558  
06/28/01

Honorable Commissioner of Patents and Trademarks  
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT  
ACCOMPANYING DIVISIONAL PATENT APPLICATION

Sir:

Applicants under the provisions of 37 CFR §§1.56, 1.97 and 1.98 call the Examiner's attention to the references listed on the enclosed Form PTO-1449. Under 37 CFR §1.98(d), since these references were previously cited by or submitted to the Office during the prosecution of the Parent Application Serial No. 09/282,817, and that application is being relied upon for an earlier filing date under 35 USC §120, copies of the references listed are not enclosed.

The Examiner is respectfully requested to consider the previously submitted references, together with such other relevant materials the Examiner locates as a result of an independent search, in the examination of the present patent application.

CERTIFICATE OF MAILING BY EXPRESS MAIL

I hereby certify that this correspondence is being deposited with the United States Postal Service as "Express Mail" in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, DC 20231, on June 26, 2001 by "Post Office to Addressee" service which envelope bears the "Express Mail" mailing label number: EI 325 771 374 US

Gayle L. Hamilton

Name of Person Mailing

Gayle L. Hamilton

Signature

Date

Respectfully submitted,

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FORM PTO - 1449  
(Modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.  
6013D

SERIAL NO.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

APPLICANT  
William Downs et al.

(Use several sheets if necessary)

FILING DATE  
June 26, 2001

GROUP

J0872 U.S. PTO  
09/894556  
06/28/01

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF. NO.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1	3,855,387	Dec 17, 1974	Brockmiller et al.	423	210	
	2	3,892,837	Jul 1, 1975	Uchiyama et al.	423	242	
	3	3,981,972	Sep 21, 1976	Hishinuma et al.	423	244	
	4	4,094,879	Jun 13, 1978	Bates et al.	260	299	
	5	4,098,697	Jul 4, 1978	DeAngelis et al.	210	202	
	6	4,190,709	Feb 26, 1980	Hodgkin	521	39	
	7	4,230,183	Oct 28, 1980	Kalfoglou	166	274	
	8	4,273,747	Jun 16, 1981	Rasmussen	423	210	
	9	4,283,303	Aug 11, 1981	Ellis	252	188	
	10	4,285,819	Aug 25, 1981	Yen et al.	210	679	
	11	4,377,484	Mar 22, 1983	Nasrallah	210	698	
	12	4,578,195	Mar 25, 1986	Moore et al.	210	679	
	13	4,857,183	Aug 15, 1989	Bommer	210	127	
	14	4,889,698	Dec 26, 1989	Moller et al.	423	210	
	15	4,889,701	Dec 26, 1989	Jones et al.	423	220	
	16	4,975,264	Dec 4, 1990	Franken	423	522	
	17	5,139,982	Aug 18, 1992	Ayala et al.	502	182	
	18	5,168,065	Dec 1, 1992	Jankura et al.	436	55	
	19	5,238,665	Aug 24, 1993	Lerner	423	240	
	20	5,246,471	Sep 21, 1993	Bhat et al.	55	223	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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	21	5,308,509	May 3, 1994	Bhat et al.	210	770	
	22	5,354,363	Oct 11, 1994	Brown, Jr. et al.	95	134	
	23	5,357,002	Oct 18, 1994	Lezzi et al.	525	332.2	
	24	5,372,940	Dec 13, 1994	Sakamoto et al.	435	195	
	25	5,380,747	Jan 10, 1995	Medford et al.	514	423	
	26	5,405,593	Apr 11, 1995	Knudson	423	244.03	
	27	5,428,154	Jun 27, 1995	Gansow et al.	540	465	
	28	5,459,276	Oct 17, 1995	Kuhn et al.	548	159	
	29	5,459,040	Oct 17, 1995	Hammock et al.	435	7.1	
	30	5,500,196	Mar 19, 1996	Rogers et al.	423	242.1	
	31	5,520,897	May 28, 1996	Rogers et al.	423	242.1	
	32	5,564,105	Oct 8, 1996	Alvino et al.	588	20	
	33	5,622,996	Apr 22, 1997	Fish	521	33	
	34	5,672,323	Sep 30, 1997	Bhat et al.	422	172	
	35	5,750,351	May 12, 1998	Medford et al.	435	7.21	
	36	5,773,209	Jun 30, 1998	Medford et al.	435	7.24	
	37	5,773,231	Jun 30, 1998	Medford et al.	435	7.24	
	38	5,783,596	Jul 21, 1998	Medford et al.	514	423	
	39	5,785,735	Jul 28, 1998	Raskin et al.	75	711	
	40	5,792,787	Aug 11, 1998	Medford et al.	514	423	
	41	5,795,548	Aug 18, 1998	Madden et al.	422	171	

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EXAMINER INITIAL	REF. NO.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	42	5,807,884	Sep 15, 1998	Medford et al.	514	423	
	43	5,809,693	Sep 22, 1998	Chet et al.	47	58	
	44	5,811,449	Sep 22, 1998	Medford et al.	514	423	
	45	5,814,288	Sep 29, 1998	Madden et al.	423	244.01	
	46	5,814,591	Sep 29, 1998	Mills et al.	510	238	
	47	5,821,260	Oct 13, 1998	Medford et al.	514	423	
	48	5,827,352	Oct 27, 1998	Altman et al.	95	58	
	49	5,834,525	Nov 10, 1998	Fish	521	33	
	50	5,846,959	Dec 8, 1998	Medford et al.	514	165	

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	51	R. D. Vidic and J. B. McLaughlin, "Uptake of Elemental Mercury Vapors by Activated Carbons," <u>Journal of the Air and Waste Management Association</u> , Vol. 46, March 1996, pages 241-250.
	52	J. G. Noblett, Jr. et al, "Control of Air Toxics from Coal-Fired Power Plants Using FPG Technology," presented at the RPRI Second International Conference on Managing Hazardous Air Pollutants, Washington, DC, July 1993, 15 pages.
	53	R. Chang and D. Owens, "Developing Mercury Removal Methods for Power Plants," <u>EPRI Journal</u> , July/August 1994, pages 46-49.
	54	K. Felsvang et al., "Air Toxics Control by Spray Dryer Absorption Systems," presented at Power-Gen '92, Orlando, FL, November 1992, pages VI-1 thru VI-17.
	55	R. Change and G. R. Offen, "Mercury emission control technologies: An EPRI synopsis, <u>Power Engineering</u> , November 1995, pages 51-57.
	56	"Emission Factors Handbook: Guidelines for Estimating Trace Substance Emissions from Fossil Fuel Steam Electric Plants," <u>EPRI</u> , TR-105611s, November 1995, pages: Cover, Report Summary, 2, 2-11, 2-12, and 2-13.
	57	Advertisement by The Dow Chemical Company, "Properties of EDTA, DTPA, HEDTA, and NTA, 1974, 2 pages.
	58	E. H. Hall, Status Report from Battelle Memorial Institute, Columbus Ohio, "Mercury Emissions and Controls," May 1, 1994, 94TEC-1, 49 pages.
	59	R. Meu, "The Fate of Mercury in Coal-Fired Power Plants and the Influence of Wet Flue-Gas Desulphurization," <u>Water, Air and Soil Pollution</u> , 56:21-33, 1991, pages 21-29.
	60	R. Gleiser et al., "Mercury Emission Reduction Using Activated Carbon with Spray Dryer Flue Gas Desulfurization," presented at 36th Annual Meeting American Power Conference, Chicago, April 25-27, 1994, pages 452-457.
	61	R. Gleiser et al, "Control of Mercury from MSW Combustors by Spray Dryer Absorption Systems and Activated Carbon Injection," MSW Conference Proceedings, Williamsburg, VA, 1993, pgs. 106-122.

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							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">YES</th> <th style="width: 50%;">NO</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>	YES	NO		
YES	NO										

  

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
62	J. Peterson et al., "Mercury Removal by Wet Limestone FGD Systems: EPRI HSTC Test Results," 94-RP114B.01, presented at the 87th Annual Meeting & Exhibition of Air & Waste Management Association, Cincinnati, Ohio, June 19-24, 1994, pages 1-16.	
63	R. Chang, et al., "Pilot Scale Evaluation of Activated Carbon for the Removal of Mercury at Coal-Fired Utility Power Plants," presented at the 2nd International Hazard Pollution Management, Washington, DC, July 13-15, 1993, pages 1-17.	
64	B. K. Gullett, et al., "Bench-Scale Sorption and Desorption of Mercury with Activated Carbon," presented at International Conference MWC, Williamsburg, VA, March 30-April 2, 1993, 8 pages.	
65	A. Licata et al., "An Economic Alternative to Controlling Acid Gases, Mercury and Dioxin from MWCs," 94-MP17.06, presented at the 87th Annual Meeting & Exhibition for Air & Waste Management Association, Cincinnati, Ohio, June 19-24, 1994, pages 1-21.	
66	R. Chang et al., "Sorbent Injection for Flue Gas Mercury Control," 94-WA68A.01, presented at the Air & Waste Management Association Conference, Cincinnati, Ohio, June 1994, 13 pages.	
67	C. Jones, "Consensus on air toxics eludes industry to date," <u>Power</u> , October 1994, pages 51-52, 55-56, 58-59.	
68	J. R. Morency, "Control of Mercury in Fossil Fuel-Fired Power Generation," presented at DOE Contractors Meeting, Pittsburgh, PA, July 21, 1994, pages 1-7.	
69	<u>Steam/its generation and use</u> , 40th Edition, The Babcock & Wilcox Company, ©1992, pages: cover, ii, 35-1 thru 35-16.	
70	K. E. Redinger et al., "Mercury Emissions Control in RGD Systems," presented at the EPRI/DOE/EPA Combined Utility Air Pollutant Control Symposium, Washington, DC, August 25-29, 1997, 17 pages.	
71	M. J. Holmes, et al., "Advanced Emissions Control Development Program," presented at the Advanced Coal-Based Power and Environmental Systems '98 Conference, Morgantown, West VA, July 21-23, 1998, 16 pages.	
72	G. A. Farthing et al., "B&W's Advanced Emissions Control Development Program," presented at the 20th International Technical Conference on Coal Utilization & Fuel Systems, Clearwater, Florida, March 20-23, 1995, 12 pages.	

  

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**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

	73	K. E. Redinger and A. P. Evans, "Mercury Speciation and Emissions Control in FGD Systems," presented at the 22nd International Technical Conference on Coal Utilization & Fuel Systems, March 17-20, 1997
	74	M. J. Holmes et al., "Control of Mercury in Conventional Flue Gas Emissions Control Systems," presented at the Managing Hazardous Air Pollutants Conference, Washington, DC, Nov. 12-14, 1997, 17 pages.
	75	K. E. Redinger et al., "Mercury Emissions Control in RGD Systems," presented at the EPRI/DOE/EPA Combined Utility Air Pollutant Control Symposium, Washington DC, Aug. 25-29, 1997, pgs. 1-17.
	76	C. D. Livengood et al., "Improved Mercury Control in Wet Scrubbing Through Modified Speciation," presented at the EPRI/DOE/EPA Combined Utility Air Pollutant Control Symposium, Washington, DC, Aug. 25-29, 1997, 16 pgs.

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